

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

All claims currently being amended are shown with deleted text struckthrough or double bracketed and new text underlined. Additionally, the status of each claim is indicated in parenthetical expression following the claim number.

Claims 1, 3 - 8, and 26 - 31 remain.

Claims 1 and 26 are being amended.

Claims 30 and 31 are being cancelled.

WHAT IS CLAIMED IS:

1. (Currently Amended) A system comprising:

an AM radio receiver;

switched mode circuitry comprising an audio amplifier for driving an audio channel of said radio receiver and operating at a selected switching frequency, the audio amplifier including pulse width modulation circuitry operating in response to a clock signal of a selected frequency and another clock signal having a frequency of a selected frequency divide ratio to the frequency of the clock signal, the pulse width modulation circuitry outputting a pulse width modulated signal at said selected switching frequency and changing operating characteristics in response to a change in said divide ratio including changing a zero point of the pulse of the pulse width modulated signal;
and

circuitry for setting said switching frequency of said switched mode circuitry by setting said divide ratio as a function of a frequency of an AM signal being received by said radio receiver.

ATTORNEY DOCKET NO
1087 - CA - C1

PATENT
U.S. 10/715,950

2. (Cancelled)

3. (Original) The system of Claim 1 wherein said switched mode circuitry comprises a Class D amplifier.

4. (Previously Presented) The system of Claim 1 wherein said circuitry for setting said switching frequency of said switched mode circuitry comprises:
 a plurality of crystals of differing resonance frequencies;
 a crystal oscillator for generating said switching frequency from a selected one of said crystals; and
 control circuitry for selecting said selected one of said crystals to set the frequency of said clock signal.

5. (Previously Presented) The system of Claim 1 wherein said circuitry for setting said switching frequency of said switched mode circuitry comprises:
 a signal generator for generating a base frequency of the clock signal;
 a programmable divider for dividing said base frequency by a selected divisor to generate said another clock signal of a frequency with said selected divide ratio to the base frequency of the clock signal; and
 control circuitry for selecting said divisor.

6. (Original) The system of Claim 1 wherein said circuitry for setting said switching frequency includes a microcontroller operable to select said switching frequency in response to selection of a reception frequency band by user input.

021615 500080 DALLAS 1920961.1

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

7. (Original) The system of Claim 1 wherein said circuitry for setting said switching frequency detects said frequency of said signal received by said radio receiver by measuring a local oscillator frequency.

8. (Original) The system of Claim 1 wherein said switching frequency is selected such that at least one harmonic of said switching frequency lies outside a frequency band including said signal being received by said radio receiver.

9. (Withdrawn) An amplifier for use in a system including a radio receiver comprising:

an output transistor for driving an output; and

pulse width modulation circuitry for generating a pulse width modulated signal in response to an input signal for switching the conduction state of said output transistor, a frequency of said pulse width modulated signal selected as a function of a frequency of a signal received by the radio receiver.

10. (Withdrawn) The amplifier of Claim 9 wherein said pulse width modulation circuitry comprises:

a crystal oscillator for generating an oscillator signal of a selected base frequency from a selected one of a plurality of crystals;

a microcontroller for selecting said selected one of said crystals as a function of said frequency of said signal received by said radio receiver; and

circuitry for converting said oscillator signal into said pulse width modulated signal.

021615 500080 DALLAS 1920961.1

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

11. (Withdrawn) The amplifier of Claim 10 wherein said circuitry for converting comprises a ramp generator for generating a ramped signal in response to an output of said oscillator and a comparator for comparing the input signal with an output of said ramp generator.

12. (Withdrawn) The amplifier of Claim 9 wherein said pulse width modulation circuitry comprises:

a signal generator for generating a base signal of a selected base frequency;

a divider for dividing said base frequency by a selected divisor to generate a signal at said frequency of said pulse width modulated signal;

a microcontroller for selecting said divisor as a function of said frequency of said signal received by said radio receiver; and

circuitry for converting said signal at said frequency of said pulse width modulated signal into said pulse width modulated signal.

13. (Withdrawn) The amplifier of Claim 12 wherein said signal generator comprises a crystal oscillator.

14. (Withdrawn) The amplifier of Claim 9 wherein said output transistor comprises a metal oxide semiconductor field effect transistor.

15. (Withdrawn) The amplifier of Claim 9 wherein said frequency of said pulse width modulated signal is selected such that at least one harmonic of said pulse width modulated signal is outside a selected frequency band including said signal received by

021615 500080 DALLAS 1920961.1

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

said radio receiver.

16. (Withdrawn) A switched mode power supply for use in a system including a radio receiver comprising:

a transistor for driving an output; and

circuitry for generating a pulse width modulated signal for switching said transistor on and off at a switching frequency selected as a function of a reception frequency of said radio receiver.

17. (Withdrawn) The power supply of Claim 16 wherein said switching frequency is selected such that at least one harmonic of said switching frequency is outside a selected frequency band including said signal received by said radio receiver.

18. (Withdrawn) The power supply of Claim 16 wherein said circuitry for generating comprises:

a crystal oscillator for generating said switching frequency using a selected one of a plurality of crystals of differing resonance frequencies; and

circuitry for selecting the one of the plurality of crystals for generating said switching frequency as a function of a frequency of said reception frequency.

19. (Withdrawn) The power supply of Claim 18 wherein said circuitry for selecting comprises a microcontroller.

021615 500080 DALLAS 1920961.1

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

20. (Withdrawn) The power supply of Claim 16 wherein said circuitry for generating comprises:

a base frequency generator; and

a programmable divider for dividing said base frequency by a selected divisor to generate said switching frequency.

21. (Withdrawn) A method of switching a power transistor used in a radio receiver comprising the steps of:

determining a frequency of a received signal being received by the radio receiver; and

generating a switching signal for switching the power transistor in response to said step of determining, a frequency of the switching signal selected such that at least one harmonic of the switching signal is outside a frequency band including the frequency of the received signal.

22. (Withdrawn) The method of Claim 21 wherein the radio includes a local oscillator and said step of determining comprises the step of counting periods of the local oscillator.

23. (Withdrawn) The method of Claim 21 wherein the radio includes a microcontroller and said step of determining comprises the step of decoding user input selecting the frequency of the received signal.

24. (Withdrawn) The method of Claim 21 wherein said step of generating comprises

021615 500080 DALLAS 1920961.1

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

the substeps of:

selecting a crystal from a plurality of crystals of differing resonance frequencies;

and

generating the frequency of the switching signal from the selected crystal using a crystal oscillator.

25. (Withdrawn) The method of Claim 21 wherein said step of generating comprises the substeps of:

generating a base frequency; and

dividing the base frequency by a selected factor to generate the switching frequency.

26. (Previously presented) The system of Claim 1 wherein said circuitry for setting said switching frequency is operable to set said switching frequency to a selected one of a set of frequency steps differing in frequency by at least two percent.

27. (Currently Amended) A system comprising:

an radio receiver;

an audio amplifier for driving an audio channel of said radio receiver and operating at a switching frequency, the audio amplifier including pulse width modulation circuitry operating in response to a clock signal and another clock signal of a frequency of selected divide ratio to the frequency of the clock signal and outputting a pulse width modulated signal at the switching frequency, a change in the divide ratio changing operating characteristics of the pulse width modulation circuitry including varying distortion correction operations in response to a change in the divide ratio and the switching frequency; and

circuitry for setting said switching frequency by changing the divide ratio including

ATTORNEY DOCKET NO
1067 - CA - C1

PATENT
U.S. 10/715,950

a divider for dividing the frequency of the clock signal to generate the frequency of the another clock signal of the selected divide ratio.

28. (Original) The system of Claim 27, wherein the radio receiver comprises an AM radio receiver.

29. (Original) The system of Claim 27, wherein the pulse width modulation circuitry changes a pulse width of the pulse width modulated signal in response to a change in the divide ratio.

30. (Cancelled).

31. (Cancelled)

021615 500080 DALLAS 1920961.1